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## **Intraoral scanning: the greatest potential of today's dentistry**

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## **Intraoral scanning: the greatest potential of today's dentistry**

There are currently two opposing trends in dentistry: going digital or (still) staying conventional. What is actually your personal choice? More importantly, what is your basis of decision-making? Are you fully aware of all the advantages of the greatest potential of today's dentistry - intraoral scanning?

Since my first steps within the dental world, digital dentistry has been my great passion. Day by day, I am more and more fascinated by this great technology and its chances and possibilities for us as dentists. In my opinion, going digital starts with one single step: the intraoral digitizing of the patient by using intraoral scanning systems. From that starting point there are several different digital procedures for a fully digital workflow. In my opinion, this fully digital workflow ensures the best treatment option for our patients and, by the way, is also the most economic procedure we can apply in our practice.

With this article I want you to become more aware of digital dentistry's great potential and intraoral scanning in particular. I will illustrate several advantages of this amazing technology and at the same time I will give you a prospective view into the future potential of this great technology.

Because I have a strong believe: digital dentistry will change dentistry as we know it today - and it is time to go digital!

### Benefits of intraoral scanning systems

Compared to taking conventional impressions, intraoral scanning offers several advantages. Instead of fabricating a plaster model, a digital data set provided by the intraoral scanning system is the basis for all further steps. Working with this digital data set is highly advantageous and will help you to perform better dentistry. But let's have a look on some benefits of intraoral scanning:

**What you see is what you get:** I am sure everybody of you has already made this experience: You have made a lot of effort to take a really perfect conventional impression, you have placed the cords perfectly and you have ensured a perfect bleeding control. Your impression even looks nice at first view. However, you will receive a phone call one day later by your lab technician saying: "Sorry doc, the plaster model shows a gap directly around the preparation margin. You'll have to do it again!". Do you remember these situations? Well, I do. And I am pretty sure you also do. Taking intraoral scans instead of taking conventional impressions will help you to avoid those annoying calls. By using intraoral scanning systems, it is really more like "what you see is what you get". You can perform quality analysis directly out of the digital model on the computer. You can even digitally check the proper reduction of tooth substance! That is a huge advantage, isn't it?

**Be more efficient:** Let's go back to the situation when your conventional impression is not perfect unfortunately. You will have to re-do the complete impression. How much time does it take for you to re-do it? Taking into account the setting time and mixing time of the impression material etc. it might be about 7-10 minutes, isn't it? That is a lot of time in every day practice! And now think about that: How much time would there be needed if you would simply do a re-scan with an intraoral scanner? Perhaps about 2-3 seconds? You even do not

need to re-scan the full jaw - you can limit your scan only to the affected area! That will save you a lot of time in every day practice. Are you with me?

**Save even more time:** Talking about saving time and being more efficient, there is another huge advantage of digital technology. Using intraoral scanning systems instead of taking conventional impressions, you will no longer need to disinfect and clean your dental impressions and impression trays! This is a very time consuming step, isn't it? Moreover, do you ever choose the best fitting impression tray for taking the impression? Really? It might sometimes occur that you will have to find some work around... By using intraoral scanning systems, you will no longer have to deal with that! First, the disinfection procedure for intraoral scanning systems is really easy and fast. You can even use a disposable plastic protective sleeve for each patient. Second, there is no more need for storing different sized impression trays. There is only one scanning tip for each patient! And doing it right, you will scan every patient perfectly!

**No more plaster:** Going digital finally means getting rid of all those plaster models. This will be a crucial step in your practice and additionally also a very advantageous step - believe me! First, digital models will never show any wear, destruction or deformation over the time. Second, storing digital models is very efficient. Instead of renting a separate "plaster model room" in your practice and beautify it with rows and tons of plaster models, simply store your patients digitally on your hard drive! I can promise you one thing: you will even find old models of your patients much faster. Simply push the search button instead of going to the archive.

**Better communication:** Have you ever dreamt about being more persuasive in communicating with your patients? Have you ever dreamt about better enlightening your patients about the treatment you are currently performing or the treatment that will be (perhaps) needed in the future? There is no easier way for that as to convince them digitally! Just take a scan and show it to them on the screen! To give you a prospective view into the future: We have currently developed a special software tool here at Zurich University allowing us to virtually analyze the patient using intraoral scans. By this means we are able to easily do several analyzes such as tooth migrations, tooth rotations, recessions and abrasions. We simply match the baseline scan and the follow-up scan of the patient. One click later we can see exactly what is going on and we can tell the patient when it will be necessary to intervene. Believe me - this is a great step forward and bears still a huge potential! **(IMAGES 1-3)**

**Doing it the chairside way:** My mentor Professor Werner Mörmann has been a visionary already 30 years ago when he invented the CEREC system - the worldwide first chairside CAD/CAM system. He strongly believed in this advantageous treatment option for the benefit of the patients. Every day I treat my patients chairside today- be it with crowns, bridges or even with highly esthetic veneers - I still feel deeply impressed by this great treatment option. And what is the first step for doing it the chairside way? Yes, you are right: it is taking an intraoral scan! The advantages for a chairside treatment are numerous like e.g. immediate dentine sealing, immediate stabilization of tooth substance and no bacterial leakage often caused by a bad fitting provisional. And it is my conviction to always treat the patient the best way possible. So, why not do it the chairside way? **(IMAGES 4-6)**

Conclusion

Today there is no more doubt about the possibilities and potential of digital impression-taking. The past few years have seen a tremendous increase in the offer of intraoral scanning systems available on the market. On the strength of numerous innovations and a wider range of indications in the fields of orthodontics and implantology, intraoral scanning systems appear to be a highly promising development for the future. So, what do you prefer: going digital or staying conventional? For me there is only one choice.